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Proposed Maximum Residue Limit

PMRL2013-76

Quinoxifen

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) has granted conditional registration to technical grade quinoxyfen and the end-use product Quintec Fungicide for use in Canada on various fruits and vegetables. The specific uses approved in Canada are detailed on the product label of Quintec Fungicide, *Pest Control Products Act* registration number 29755.

The evaluation of these quinoxyfen applications indicated that the end-use product has merit and value, and the human health and environmental risks associated with the new uses are acceptable.

Before registering a pesticide for food use in Canada, the PMRA must determine the quantity of residues that are likely to remain in or on the food when the pesticide is used according to label directions and that such residues will not be a concern to human health. This quantity is then legally established as a maximum residue limit (MRL). An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except where separate MRLs are specified for the raw agricultural commodity and a processed product made from it.

Consultation on the proposed MRLs for quinoxyfen is being conducted via this document (see Next Steps, the last section of this document). A summary of the field trial data used to support the proposed MRLs can be found in Appendix I.

To comply with Canada's international trade obligations, consultation on the proposed MRLs is also being conducted internationally by notifying the World Trade Organization, as coordinated by the Standards Council of Canada.

The proposed MRLs, to replace or be added to the MRLs already established for quinoxyfen, are as follows.

Table 1 Proposed Maximum Residue Limits for Quinoxyfen

Common Name	Residue Definition	MRL (ppm)	Food Commodity
Quinoxyfen	5,7-dichloro-4-(4-fluorophenoxy)quinoline	19	Leaf lettuce
		7.0	Head lettuce
		0.9	Strawberries
		0.7	Crop Group 12-09 (Stone Fruits)*
		0.2	Pumpkins; winter squash
		0.08	Crop Subgroup 9A (Melon Subgroup)

ppm = parts per million

* To accommodate the establishment of a crop group MRL for stone fruits, the current MRL of 0.3 ppm for quinoxyfen on cherries (sweet and tart) will be revised to 0.7 ppm.

MRLs are proposed for each commodity included in the listed crop groupings in accordance with the Residue Chemistry Crop Groups webpage in the Pesticides and Pest Management section of Health Canada's website.

MRLs established in Canada may be found using the Maximum Residue Limit Database on the Maximum Residue Limits for Pesticides webpage. The database allows users to search for established MRLs, regulated under the *Pest Control Products Act*, both for pesticides or for food commodities.

International Situation and Trade Implications

MRLs may vary from one country to another for a number of reasons, including differences in pesticide use patterns and the locations of the field crop trials used to generate residue chemistry data.

The MRLs proposed for quinoxifen in Canada are the same as the corresponding American tolerances as listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide. Table 2 compares the MRLs proposed for quinoxifen in Canada with corresponding Codex MRLs¹. A listing of established Codex MRLs is available on the Codex Alimentarius Pesticide Residues in Food website, by pesticide or commodity.

Table 2 Comparison of Canadian and Codex MRLs (where different)

Food Commodity	Canadian MRL (ppm)	Codex MRL (ppm)
Leaf lettuce	19	20
Head lettuce	7.0	8
Strawberries	0.9	1.0
Crop Group 12-09 (Stone Fruits)	0.7	0.4 (for cherries)
Pumpkins, winter squash	0.2	Not established
Crop Subgroup 9A (Melon Subgroup)	0.08	0.1 (for melons, except watermelon)

Next Steps

The PMRA invites the public to submit written comments on the proposed MRLs for quinoxifen up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs. Comments received will be addressed in a separate document linked to this PMRL. The established MRL will be legally in effect as of the date that they are entered into the Maximum Residue Limit Database.

¹ The Codex Alimentarius Commission is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

Appendix I

Summary of Field Trial Data Used to Support the Proposed MRLs

Residue data from supervised residue trials conducted in the United States and Canada on peaches, plums, cantaloupes, leaf lettuce, head lettuce, strawberries and winter squash were submitted to support the domestic use of Quintec Fungicide on commodities of Crop Group 12-09 (Stone Fruits), grapes, strawberries, melons, pumpkins, winter squash, head and leaf lettuce, and hops. Previously reviewed residue data from field trials conducted in/on cherries, grapes and hops were also reassessed in the framework of this petition. Quinoxifen was applied at label rates or exaggerated rates to crops, which were harvested according to label directions. In addition, processing data on treated plums were reviewed, and processing data on treated grapes were reassessed, to determine the potential for concentration of residues of quinoxifen into processed commodities.

Maximum Residue Limits

The recommendation for maximum residue limits (MRLs) for quinoxifen was based upon the submitted field trial data, and the guidance provided in PRO2005-04, *Guidance for Setting Pesticide Maximum Residue Limits Based on Field Trial Data*. Table A1 summarizes the data used to calculate the proposed MRLs for Melon Subgroup (Crop Subgroup 9A), Stone Fruits (Crop Group 12-09), head lettuce, leaf lettuce, pumpkins, strawberries and winter squash. Residues in processed commodities not listed in Table 1 are covered under the recommended MRLs for the raw agricultural commodities (RACs).

The resulting quinoxifen residues in/on grapes and hops will be covered under the established MRLs of 0.5 ppm for grapes and 2.5 ppm for hops, previously established for imported commodities.

Table A1 Summary of Field Trial and Processing Data Used to Support Maximum Residue Limits (MRLs)

Commodity	Application Method/ Total Application Rate (g a.i./ha)	PHI (days)	Residues (ppm)		Experimental Processing Factor
			Min	Max	
Cherries, sour	Foliar/ 620	6-7	0.046	0.269	Not required
Cherries, sweet	Foliar/ 620	7-8	0.030	0.146	
Peaches	Foliar/ 575-598	6-8	0.063	0.540	Not required
	Foliar/ 725	8	0.430	0.550	
Plums	Foliar/ 578-585	7	<0.01	0.095	3.5x in dried prune plums
Cantaloupes	Foliar/ 581-747	2-4	<0.01	0.056	Not required
Grapes	Foliar/ 300	14	0.085	0.135	No concentration observed in grape juice and raisins
	Foliar/ 570-800	13-15	0.048	0.480	
Hops	Foliar/ 590-760	20-21	0.384	2.46	Not required
Leaf lettuce	Foliar/ 571-738	1	1.20	14.0	Not required

Commodity	Application Method/	PHI	Residues (ppm)		Experimental Processing
Head lettuce with wrapper leaves	Foliar/ 582-747	1	0.80	5.80	Not required
Strawberries	Foliar/ 580-648	1	0.032	0.574	Not required
Winter squash	Foliar/ 580-600	3-4	0.027	0.106	Not required

PHI = preharvest interval; ppm = parts per million

Following the review of all available data, MRLs as proposed in Table 1 are recommended to cover residues of quinoxifen. Residues of quinoxifen in these crop commodities at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.